CLAIMS

1. A feeding-stimulating agent, comprising a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, a functionally equivalent modified polypeptide thereof, or a polypeptide consisting of an amino acid sequence having 70% or more homology to the amino acid sequence of a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, or a salt thereof.

2. A agent for increasing body weight, comprising a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, a functionally equivalent modified polypeptide thereof, or a polypeptide consisting of an amino acid sequence having 70% or more homology to the amino acid sequence of a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, or a salt thereof.

3. An agent for increasing fat weight, comprising a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, a functionally equivalent modified polypeptide thereof, or a polypeptide consisting of an amino acid sequence having 70% or more homology to the amino acid sequence of a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, or a salt thereof.

4. A method of screening for a compound which stimulates feeding or a salt thereof, comprising the steps of
(A) contacting a test substance with a relaxin-3 receptor, a cell containing a relaxin-3 receptor, or a membrane fraction of said cell, and
(B) measuring a cell-stimulating activity via the relaxin-3 receptor.

5. A method of screening for a compound which stimulates or suppresses feeding or a salt thereof, comprising the step of
(A) contacting a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, a functionally equivalent modified polypeptide thereof, or a polypeptide consisting of an amino acid sequence having 70% or more homology to the amino acid sequence

of a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, or a salt thereof, and a test substance with a relaxin-3 receptor, a cell which contains a relaxin-3 receptor, or a membrane fraction of said cell.

6. The method of screening for a compound which stimulates or suppresses feeding or a salt thereof according to claim 5, wherein it comprises the step of

(B) measuring a cell-stimulating activity via the relaxin-3 receptor.

7. The method of screening according to any one of claims 4 to 6, wherein the relaxin-3 receptor is SALPR or its partial polypeptide.

8. The method of screening according to claim 7, wherein SALPR is a polypeptide containing the amino acid sequence represented by SEQ ID NO: 4.

9. A kit for screening for a compound which stimulates feeding or a salt thereof, comprising the steps of

(A) contacting a test substance with a relaxin-3 receptor, a cell which contains a relaxin-3 receptor, or a membrane fraction of said cell, and

(B) measuring a cell-stimulating activity via the relaxin-3 receptor.

10. A kit for screening for a compound which stimulates or suppresses feeding or a salt thereof, comprising the step of

(A) contacting a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, a functionally equivalent modified polypeptide thereof, or a polypeptide consisting of an amino acid sequence having 70% or more homology to the amino acid sequence of a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, or a salt thereof, and a test substance with a relaxin-3 receptor, a cell which contains a relaxin-3 receptor, or a membrane fraction of said cell.

11. The kit for screening for a compound which stimulates or suppresses feeding or a salt thereof according to claim 10, wherein it comprises the step of

(B) measuring a cell-stimulating activity via the relaxin-3

receptor.

12. The kit for screening according to claim 9, 10, or 11, wherein the relaxin-3 receptor is SALPR or its partial polypeptide.

13. The kit for screening according to claim 12, wherein SALPR is a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 4.

14. A therapeutic agent for the treatment of a disease which requires body weight gain, comprising a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, a functionally equivalent modified polypeptide thereof, or a polypeptide consisting of an amino acid sequence having 70% or more homology to the amino acid sequence of a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, or a salt thereof.

15. The agent according to claim 14, wherein said disease is anorexia or cachexia.

16. A method of screening for a compound which increases body weight or a salt thereof, comprising the steps of

(A) contacting a test substance with a relaxin-3 receptor, a cell containing a relaxin-3 receptor, or a membrane fraction of said cell, and

(B) measuring a cell-stimulating activity via the relaxin-3 receptor.

17. A method of screening for a compound which increases or decreases body weight or a salt thereof, comprising the step of

(A) contacting a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, a functionally equivalent modified polypeptide thereof, or a polypeptide consisting of an amino acid sequence having 70% or more homology to the amino acid sequence of a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, or a salt thereof, and a test substance with a relaxin-3 receptor, a cell which contains a relaxin-3 receptor, or a membrane fraction of said cell.

18. The method of screening for a compound which increases or decreases body weight or a salt thereof according to claim 17, wherein it comprises the step of

(B) measuring a cell-stimulating activity via the relaxin-3 receptor.

19. The method of screening according to any one of claims 16 to 18, wherein the relaxin-3 receptor is SALPR or its partial polypeptide.

20. The method of screening according to claim 19, wherein SALPR is a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 4.

21. A kit for screening for a compound which increases body weight or a salt thereof, comprising the steps of

(A) contacting a test substance with a relaxin-3 receptor, a cell containing a relaxin-3 receptor, or a membrane fraction of said cell, and

(B) measuring a cell-stimulating activity via the relaxin-3 receptor.

22. A kit for screening for a compound which increases or decreases body weight or a salt thereof, comprising the step of (A) contacting a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, a functionally equivalent modified polypeptide thereof, or a polypeptide consisting of an amino acid sequence having 70% or more homology to the amino acid sequence of a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, or a salt thereof, and a test substance with a relaxin-3 receptor, a cell which contains a relaxin-3 receptor, or a membrane fraction of said cell.

23. The kit for screening for a compound which increases or decreases body weight or a salt thereof according to claim 22, wherein it comprises the step of

(B) measuring a cell-stimulating activity via the relaxin-3 receptor.

24. The kit for screening according to claim 21, 22, or 23, wherein the relaxin-3 receptor is SALPR or its partial polypeptide.

25. The kit for screening according to claim 24, wherein SALPR is a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 4.

26. A method of screening for a compound involved in the control of obesity or a salt thereof, comprising the steps of (A) contacting a test substance with a relaxin-3 receptor, a cell comprising a relaxin-3 receptor, or a membrane fraction of said cell, and
(B) measuring a cell-stimulating activity via the relaxin-3 receptor.

27. A method of screening for a compound involved in the control of obesity or a salt thereof, comprising the step of (A) contacting a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, a functionally equivalent modified polypeptide thereof, or a polypeptide consisting of an amino acid sequence having 70% or more homology to the amino acid sequence of a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, or a salt thereof, and a test substance with a relaxin-3 receptor, a cell which contains a relaxin-3 receptor, or a membrane fraction of said cell.

28. The method of screening for a compound involved in the control of obesity or a salt thereof according to claim 27, wherein it comprises the step of
(B) measuring a cell-stimulating activity via the relaxin-3 receptor.

29. The method of screening according to any one of claims 26 to 28, wherein the relaxin-3 receptor is SALPR or its partial polypeptide.

30. The method of screening according to claim 29, wherein SALPR is a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 4.

31. A kit for screening for a compound involved in the control of obesity or a salt thereof, comprising the steps of
(A) contacting a test substance with a relaxin-3 receptor, a cell containing a relaxin-3 receptor, or a membrane fraction of said cell, and
(B) measuring a cell-stimulating activity via the relaxin-3 receptor.

32. A kit for screening for a compound involved in the control

of obesity or a salt thereof, comprising the step of

(A) contacting a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, a functionally equivalent modified polypeptide thereof, or a polypeptide consisting of an amino acid sequence having 70% or more homology to the amino acid sequence of a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 2, or a salt thereof, and a test substance with a relaxin-3 receptor, a cell which contains a relaxin-3 receptor, or a membrane fraction of said cell.

33. The kit for screening for a compound involved in the control of obesity or a salt thereof according to claim 32, wherein it comprises the step of

(B) measuring a cell-stimulating activity via the relaxin-3 receptor.

34. The method of screening according to any one of claims 31 to 33, wherein the relaxin-3 receptor is SALPR or its partial polypeptide.

35. The kit for screening according to claim 34, wherein SALPR is a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 4.

36. An agent for suppressing feeding, comprising a compound having an SALPR-inhibiting activity.

37. The agent according to claim 36, wherein the compound having an SALPR-inhibiting activity is a compound obtained by the screening method of claim 7 or 8.

38. An agent for reducing body weight, comprising a compound having an SALPR-inhibiting activity.

39. The agent according to claim 38, wherein the compound having an SALPR-inhibiting activity is a compound obtained by the screening method of claim 19 or 20.

40. An agent for reducing fat weight, comprising a compound having an SALPR-inhibiting activity.

41. The agent according to claim 40, wherein the compound having an SALPR-inhibiting activity is a compound obtained by the screening method of claim 29 or 30.

42. A therapeutic agent for the treatment of obesity,

comprising a compound having an SALPR-inhibiting activity.

43. The agent according to claim 42, wherein the compound having an SALPR-inhibiting activity is a compound obtained by the screening method of any one of claims 19, 20, 29, and 30.

44. A therapeutic agent for the treatment of diabetes, comprising a compound having an SALPR-inhibiting activity.

45. The agent according to claim 44, wherein the compound having an SALPR-inhibiting activity is a compound obtained by the screening method of any one of claims 19, 20, 29, and 30.

46. The agent according to any one of claims 36 to 45, wherein SALPR is a polypeptide comprising the amino acid sequence represented by SEQ ID NO: 4.

47. A method of screening for a compound to stimulate or suppress feeding or a salt thereof, comprising the steps of administering a compound which acts on a relaxin-3 receptor to a human or a non-human organism and then measuring the amount of feeding after administration.

48. The method according to claim 47, wherein the compound which acts on a relaxin-3 receptor is a compound obtained by the method of any one of claims 4 to 8.

49. A method of screening for a compound which increases or decreases body weight or a salt thereof, comprising the steps of administering a compound which acts on a relaxin-3 receptor to a human or a non-human organism and then measuring body weight after administration.

50. The method according to claim 49, wherein the compound which acts on a relaxin-3 receptor is a compound obtained by the method of any one of claims 16 to 20.

51. A method of screening for a compound involved in the control of obesity or a salt thereof, comprising the steps of administering a compound which acts on a relaxin-3 receptor to a human or a non-human organism and then measuring indices of obesity after administration.

52. The method according to claim 51, wherein the compound which acts on a relaxin-3 receptor is a compound obtained by the method of any one of claims 26 to 30.